



Energy & Environmental Initiatives

County of Loudoun

March 31, 2011





Countywide Energy Strategy

Energy Strategy Goals

- Be recognized as location of choice for investment
- Have consistently lower energy costs relative to surrounding areas
- Be recognized as regional-state-national model
- Have the lowest greenhouse gas emissions in the country
- Major investments will contribute to meeting the County Energy Strategy





Loudoun County Energy Vision

“Loudoun County will always have reliable and affordable energy, be energy efficient and reduce greenhouse gases”

Simple - Measurable - Eternal





Loudoun County Energy Plan

Focus on Overall Competitiveness

- **County Wide Energy Strategy**
 - 30 year roadmap
 - Competitiveness and sustainability
 - Attract high quality employment
- **Local/ Global Team developed strategy**
 - Active Support: Dominion Power, NOVEC, Washington Gas
 - 7 public input sessions midway and 1 final public session
 - Outreach to businesses
- **Adopted December 2009 by Board of Supervisors**
- **Download at www.loudoun.gov/energy**
- **Federal Funding Background**
 - Energy Efficiency and Conservation Block Grant
 - Baseline energy and emissions
 - Broader policy recommendations
 - Specific short term “next steps” projects
 - Some immediate funds for initial projects

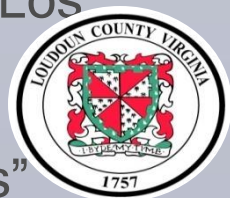
Strive for Global Energy Excellence





Regional-State-National model of competitive energy and climate management

- The COG has chosen a Loudoun neighborhood for pilot education program / challenge
- Governor McDonnell wrote to DOE Secretary Chu: “Loudoun County has been named by the National Association of Counties as one of two counties nationwide that will serve as beacons at the local government level for their County Energy Planning effort.”
- German ambassador highlighted Loudoun as model U.S. community at 2010 business forum at the German Embassy
- Loudoun County asked to present our plans for our first scale project, Moorefield Station, at 2010 Applied Solutions conference
- Loudoun County presents at National Association of Counties 2010 Annual Meeting in Reno, Nevada and 2011 Energy Summit in Los Angeles
- Loudoun’s first Green Business Challenge is “a raging success”





County Energy Strategy Supports Economic Development

ENERGY STRATEGY: Loudoun County will always have reliable and affordable energy, be energy efficient and reduce greenhouse gases

ECONOMIC DEVELOPMENT STRATEGY:

Our Vision is to be an innovative, globally competitive economy known for its favorable business environment, exceptional quality of place and strong sense of community”

- Recognized Center for Innovation
- Prosperous Business Environment
 - High Quality of Place
 - Sound Fiscal Health
 - Favored Visitor Destination
- ***World-class Energy Performance***

Energy Excellence Embedded in County Plans

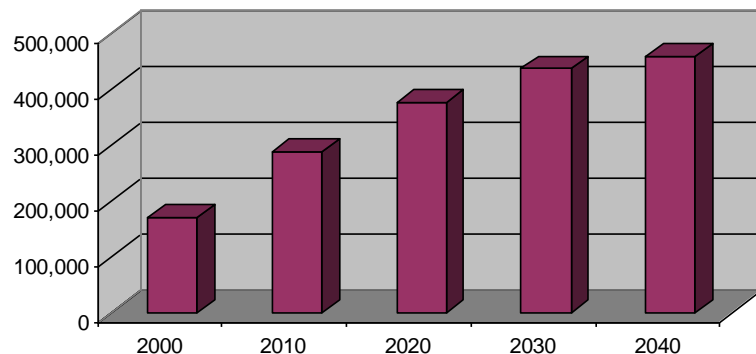




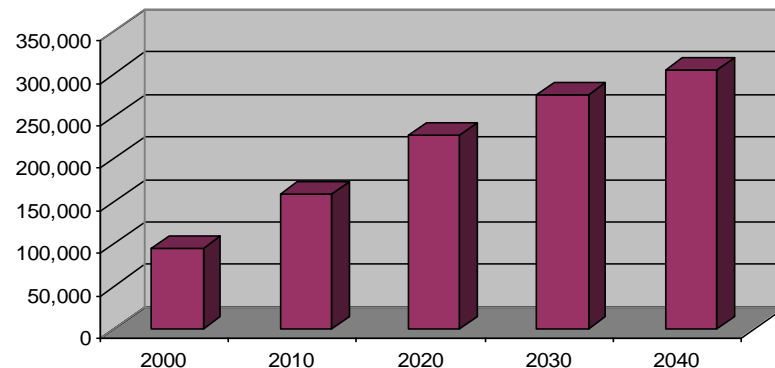
Loudoun Growth Challenge

69 % *Population* & 116% *Job Growth*

Population



Employment



- **Energy for Building**

- 75,000 new homes added to current 100,000
- 73 million square feet non-residential to current 69 million
- Renovation of existing homes and buildings

- **Fuel for Transportation**

- Mobility of 187,000 more people on already congested roads
- Commercial transport to support increased population

Reliable – Clean - Affordable Energy Services





EECBG Funded Projects

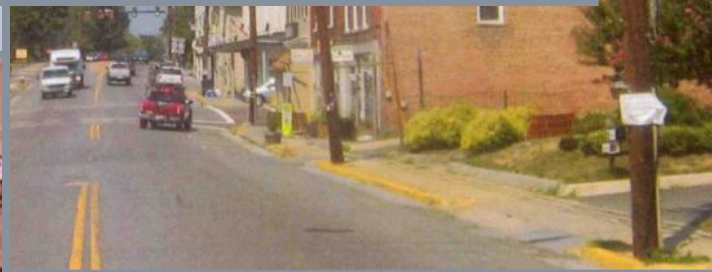
Purcellville LED Streetlights



Project Goals

- Install 42 LED lights along Main Street in Purcellville
- Reduce Greenhouse Gases
- Reduce energy consumption
- Estimated 3 full time manufacturer, delivery, & installation jobs will be created through duration of the project

Project Budget \$40,000



Project Completed March 2011
Estimated Energy Savings 60%





EECBG Funded Projects

Energy Home Improvement Program



Project Goals

- Home improvement energy retrofits
- Reduce energy consumption
- Reduce Greenhouse Gases
- Reduce energy consumption
- Estimated 5 full time positions will be created through duration of the project

Project Budget \$140,000

Five homes will receive grants up to \$30,000
Estimated project completion Date: June 2011





EECBG Funded Projects

Youth Shelter Expansion



Project Goals

- 20 kW Solar Panels
- Reduce energy consumption
- Reduce Greenhouse Gases
- Reduce Energy Consumption
- Estimated 7 full time positions will be created through duration of the project

Project Budget \$300,000

- Contract established with Standard Solar
- Installation to take place in June 2011





EECBG Funded Projects

LED Solar Lights, Electric Vehicle Charging Stations



Project Goals

- 24 LED Lights
- 5 EV Charging Stations
- Reduce energy consumption
- Reduce Greenhouse Gases
- Estimated 3.2 full time positions will be created through duration of the project

Project Budget \$300,000

Contract established with MC Dean
Construction to commence April 2011





EECBG Funded Projects

ABC7 Residential Education & Outreach



Project Goals

- Increase awareness
- Reduce Greenhouse Gas Emissions
- Reduce energy consumption
- Estimated 5 full time jobs will be created through the duration of the project

Project Budget \$300,000

\$75,000 was encumbered towards ABC7 Partnership

\$30,000 encumbered for mailing of Energy Smart Solutions

Project Completed in 2010
Ashburn Home received \$21,000 energy improvements





EECBG Funded Projects

Business Education & Outreach/ Green Business Challenge



Project Goals

- Increase awareness
- Reduce greenhouse gas emissions
- Reduce energy consumption
- Increase bottom-line
- Estimated 4 full time jobs will be created through the duration of the project

Project Budget \$100,000



**Contract established with Sustainable
Design Consultant**
Project kick-off was March 25, 2011





EECBG - Study/Planning Projects

Combined Heat & Power Cogeneration Feasibility Study



Project Goals

- Combined Heat & Power
- Natural Gas-fired Cogeneration
- Reduce energy consumption
- Reduce Greenhouse Gases
- Estimated 2 full time positions will be created through duration of the project

Project Budget \$160,000

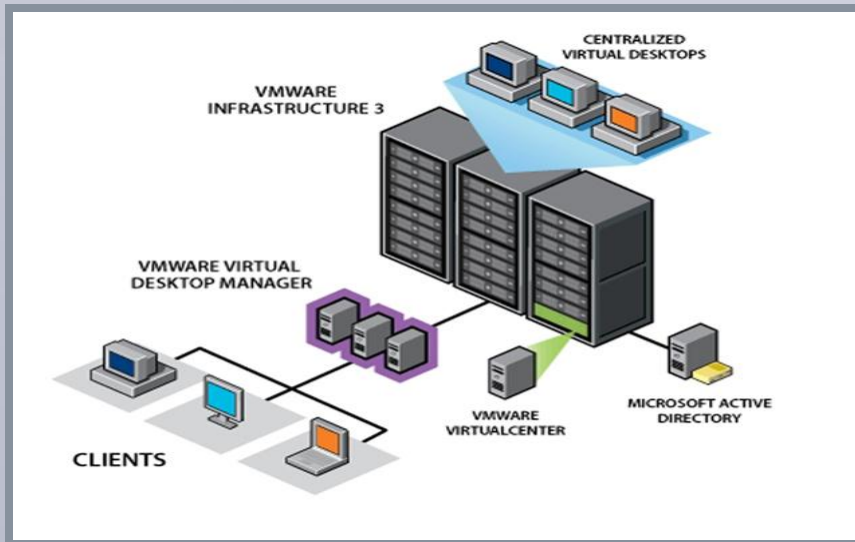
Project was awarded to Dewberry
Project to be completed by September 2011





EECBG - Construction Projects

DIT Server Virtualization



Project Goals

- Installation of five (5) virtual servers at DIT
- Reduce energy consumption
- Reduce energy costs
- Reduce Greenhouse Gases
- Estimated 2 full time positions will be created through duration of the project

Project Budget \$250,000

Project Awarded to:
Hardware: CAS Severn
Software: CDWG
Anticipated installation April 2011





EECBG Funded Projects

Moorefield Station Scale Project Energy Use Feasibility Study



Project Goals

- Integrated Energy Master Plan
- Combined Heat & Power
- Reduce energy consumption
- Reduce Greenhouse Gases
- Estimated 6 full time positions will be created through duration of the project

Project Budget \$300,000

Claude Moore Foundation \$100,000

Currently in the procurement process
Anticipated process completion April 2011
Project Kick-off May 2011





Energy & Environmental Achievements

Acquired Energy Management Software in 1993
Energy Manager's position was created in 2002

In April, 2008 the Board approved 4 green initiatives:

- a. Adopted LEED Green Building standard
- b. Joined VML Green Government Challenge
- c. Joined "Cool Capital" Challenge
- d. Became an Energy Star partner





Energy & Environmental Achievements

VML Green Government Challenge

2008 Challenge received 183 points out of 200 possible points. Tied first place with the City of Roanoke

2009, Challenge received 193 points out of 200 possible points. We received the Platinum Award from VML and received cash award from the Virginia Association of Counties

2010 Challenge received first place Platinum Award





Energy & Environmental Achievements

Energy Conservation Committee

The was formed in 2008 consists of liaisons from all the departments.

The goal of this Committee is to reduce carbon emissions and save energy by modifying employee's behavior.

In 2009 the County reduced its energy by 433,000 kWh, over \$128,000 savings (equivalent to **269 cars** off the road, **410 trees** planted).





Energy & Environmental Achievements

Cool Capital Challenge

The County doubled its 3% carbon emission reduction goal

2009 Emission Reduction = 2,911,789 lb

Equivalent to **253 cars** off the road, **387 trees** planted





Energy & Environmental Initiatives

COG Home Energy Challenge Pilot

COG Residents Outreach Campaign In Three Communities:

- Cascades, Virginia, 143 residents have signed up, 56 linked
- Greenbelt, Maryland, 103 residents have signed up, 62 linked
- Brookland, Washington DC, 114 residents have signed up, 36 linked

Communities register in the COG Website www.WeCanSaveEnergy.org to take the Challenge

The Pilot will end on
March 31, 2011





Loudoun County Green Business Challenge

On November 19, 2009, the County & the Chamber of Commerce partnered to recognize those businesses leading the way in sustainability

There were thirty-nine (39) scorecard submissions received from Loudoun County businesses

The first annual Loudoun Green Gala on November 16, 2010 at the Re/Max Premier building in the Beaumeade Corporate Park in Ashburn

The top winners of the Challenge are:

- AOL - Platinum, Large Business Category
- National Conference Center - Platinum, Medium Business Category
- Unison Advisory Group - Gold, Small Business Category
- Southland Industries - Platinum, Triangle Award for Thinking Outside of the Box





Energy & Environmental Initiatives

ICLEI Virginia **Green** Community Challenge Pilot

Purpose: Outline a Green Community Challenge

Pilot Participants:

- County of Loudoun
- City of Blacksburg
- City of Norfolk
- City of Roanoke



The pilot ends in October 2011. It will be available to all Virginia jurisdictions in January 2012

In line with Education & Outreach Residents/Businesses
EECBG funded projects





Energy & Environmental Initiatives



ICLEI Sustainability Award

In September 2010, Loudoun County received a prestigious Milestone Achievement Award from ICLEI-Local Governments for Sustainability (ICLEI), a membership association of local governments committed to advancing climate protection and sustainable development.





Energy & Environmental Initiatives

Energy Audits Outcome

	Facility Name	Dollar Savings
1	Claude Moore Recreation Center	\$35,291
2	DIT	\$16,977
3	Fire Rescue Training Academy	\$12,973
4	Government Center	\$37,941
5	Judicial Complex	\$26,163
6	Historic Courthouse	\$ 2,194
7	Shenandoah Bldg.	\$12,995
	Total Savings	\$144,534





NACO Energy Efficiency Conference

County's presentation on Increasing Economic Competitiveness through County-wide Energy Management

The event was held on January 20th & 21st in Los Angeles

www.naco.org/2011EnergyForum

Attendees: EECBG Recipients





Applied Solutions



The County became a member of Applied Solutions a non-profit organization based in Boulder, Colorado.

Applied Solutions connects local government officials with each other and partners such as energy and research laboratories, academic institutions, private sector and non-profit organizations to look at new ways to minimize impacts on water, energy, transportation and land use.





Thank You!

www.loudoun.gov/energy

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